

VTF 2006

VIA Technology Forum

Maximizing the cost and
efficiency benefits of Thin Client

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*Embracing
Digital Intelligence*

Agenda

- **Why Thin Client**
- **HP Compaq T5000 series Thin Client**
- **Case Study**
- **What's the next step: CCI**

CIOs' Challenges today

Remote
Branches/Workers



- Excellent performance no matter how remote workers are connected
- BIOS & Software upgrade for all clients

Data Security



- Security of Corporate Confidential Data
- Software Security and Virus Control

Business Continuity



- Efficient Problem diagnosis and trouble shooting to minimize downtime

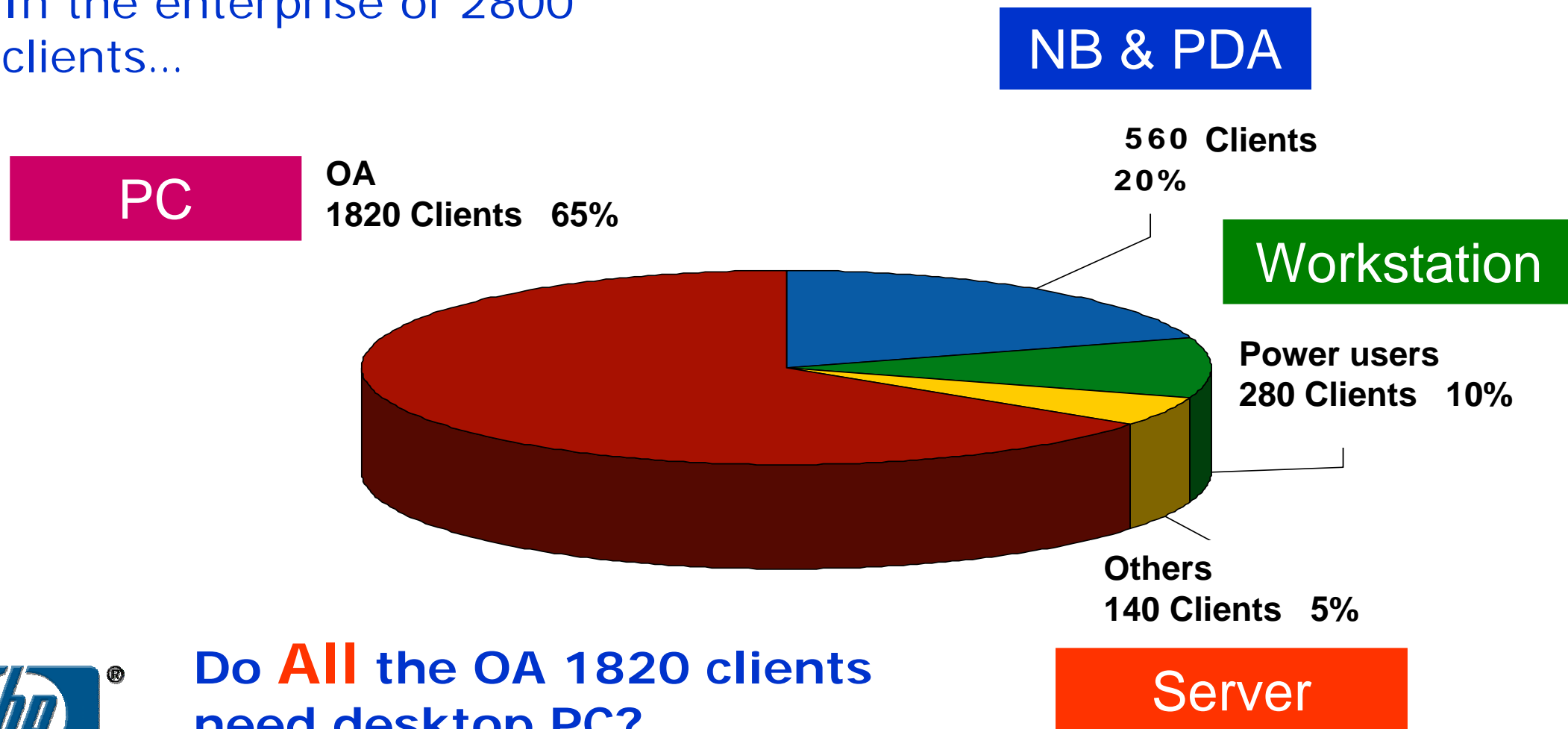
Reduce Costs



- Reduce the Total Cost of Ownership with consolidated management

IT Client Infrastructure

In the enterprise of 2800 clients...



Do **All** the OA 1820 clients need desktop PC?

Thin Client Server Based Computing

- Data never leaves Server – High Data Security
- All AP installed in Server – High Consolidation
- No data lost caused by any hardware downtime
- High efficiency of trouble shooting – Within 10mins
- Low Bandwidth requirement
- Delivery of the same user experience – No extra training is needed

1

Computing at Server end

Thin Client Server SW:

1. Citrix Metaframe
2. WinNT/2000/2003 Terminal Services
3. Unix/Linux

3

The Same User operation interface

2

Display image to client end

Client S/W:

1. CE/XPe/Linux
2. Citrix ICA
3. MS RDP
4. X-term
5. Terminal Emulations

4

Bandwidth of less than 40K

Connection:

1. Lan or Wan
2. Internet (VPN)
2. Dial-Up
3. Wireless

Security & Management

	Traditional PC	Thin-Client
Data Protection	Data are scattered in all clients' storage	All data are well stored in consolidated Server end with redundancy
User Behavior	Hard to control the illegal software installed by clients	No HDD. If client installs any software in Flash memory, it would be back to original stage when next boot on (HP EWF – Enhanced Write Filter)
Data Security	Clients could easily download the corporate data with USB storage device	No data would ever leave server. Client could not download any data at will
Virus control	High Virus threat	Extremely Low Virus threat

Reliability

	Traditional PC	Thin-Client
MTBF	3 years (?)	300,000 hours (>30 years!!)
Reliability of components	Built in: (1)HDD (2)CPU fan / Chassis fan (3)Power supply	No (1)HDD (2)CPU fan / Chassis fan (3) use AC Adapter instead of PSU
Power consumption	Avg. 250 watt	Avg. 25 watt
Environment	Must be the OA environment with air conditioning and dust free	Would be used in industrial environment with high dust and w/o air conditioning



*Varies by model

Asset Management & Technical support cost

	Traditional PC	Thin-Client
Trouble shooting	IT checks at User site=> Find out the failed component => Wait for replacement component => Change and repair => Re-install the AP and re-set up (if HDD failure). After downtime: 8hrs ~ 1day!!	User gets the replacement thin client => power on => IT install the image by remote control with HP Management system- CMS (free) => Reboot => Done. Average downtime: 10mins!!
Asset Management	Check the S/W and H/W physically for each client	Get the Asset Analysis report immediately with HP free management system
BIOS/Software upgrade	(1) Re-create the image, and deploy to each client PC 1 by 1 (2) Pay for extra management tool for remote deployment	(1) Upgrade at Server end once for all (2) User HP CMS that are free with HP Thin Client

*Varies by

Saving Cost

Solid-state design for reliability

- No HDD/Fan/PSU with high failure rate
- No Noise.



Small as
1/15 of PC



Thin as 1 book
(20cm)



HP Thin Client Main Benefits of HP Thin Clients

Saving Cost

Lower total cost of ownership

- ▶ Faster and less expensive updates
- ▶ Reduced technical support costs
- ▶ All easily controlled by the administrator!
- ▶ Mean Time Between Failure can be 30 years
- ▶ Reduced noise
- ▶ Lowered maintenance costs

PC Power Usage : 250 watt X 200 = 50 kilo watt
Thin Client : 23 watt X 200 = 4.6 kilo watt

Cost of ownership

HP Thin Client
Fat Client (PC)



Saving Cost

HP Thin Clients prevent: **Is too much storage space for client??**

▶ Unauthorized software download

▶ Unused HDD storage space

▶ Virus Threat

▶ Security issue of confidential data



HDisk Usage:

- . 1Gb for MS XPP
- . 1GB for MS Offices 2003
- . 1Gb in-house Apps
- . 37Gb unused (40 Gb HDisk)

(** 37Gb X 200 Users = 7.4 terra byte
Of unmanaged storage)

Spam / web adwares infection

Minimize the TCO

✓ **Higher Reliability
than PC**

✓ **Secure Data**

✓ **Easy to manage /
deploy**

✓ **Low price**



- Smaller size
- The same user experience
- Could be used in industrial environment



- Data security and Virus protection
- Software management
- Could set up server authority
- All data are well managed at consolidated server end

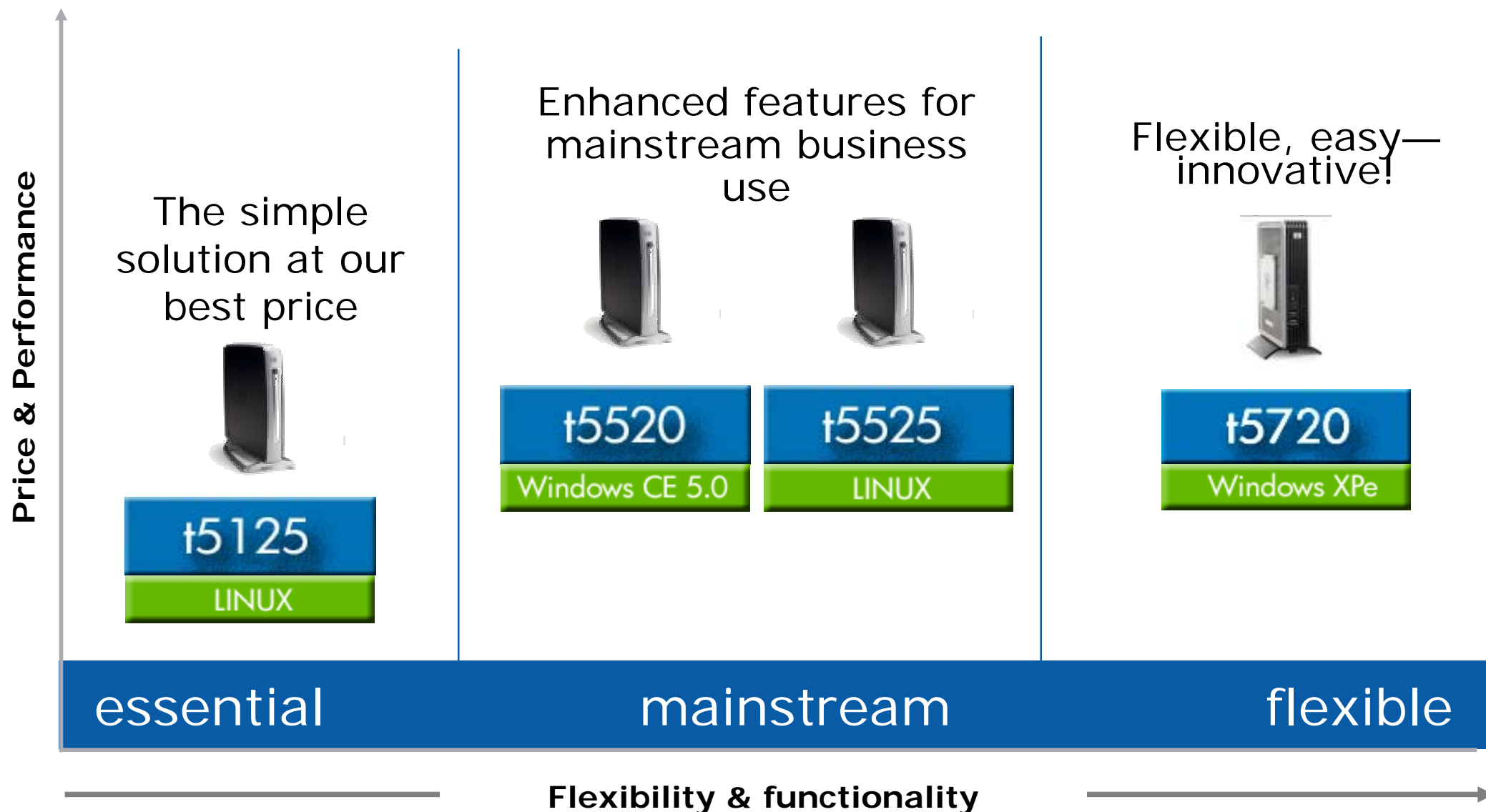


- Min the down time for max productivity
- With HP/Altiris Management solution, it's easy for client management and deployment

= Lower IT costs

Gartner estimates the management cost for 1 PC is around US\$ 4000/yr vs. thin client terminal: US\$2600/yr
Source: Gartner COM-23-4338, August 2004

HP Compaq T5000 series



Thin Client Application



Insurance Industries



Telcos Industries



Call Center



Thin Client Application

(cont'd)



Call Center on Web Based Apps



Educational Sectors



Health Care Sectors

Case Study: Audrey Easy Shop



Customer's need

- "We designed our outlets based on the belief : easy to shop around. So we have called them Easy Shop. With all wares displayed readily our customers can conveniently look our garments. In friendly fitting rooms, consumers can try on their choices from our wide-ranging selection while feeling relaxed and easy."
- Customer needed to deploy application to 350 Easy Shops across Taiwan
- Company had three primary concerns:
 - ✓ Provide high availability to mission-critical data
 - ✓ Maintain consistent, high-level of performance
 - ✓ Expand the business easily



Our Solution

**350 Audrey Chain
store clients**

**Audrey HQ Server
Room**



Our Solution (cont'd)

- **Secure Access to Browser-based applications using:**
 - Microsoft Office 2000
 - Customized Delphi Application
 - TITOP Telnet Mode Application
 - Provide Legacy Application along with New Web Application
- **Environment**
 - Citrix MetaFrame Presentation Server
 - HP Compaq CE-based Thin Client with VIA CPU: T5520
 - HP Proliant DL380G3 Server

The Next Stage: CCI

1. Centerwall assembly
2. Blades
3. Interconnect trays
4. Hot Plug fans
5. Hot Plug power supplies
6. 20 blades/enclosure



What is CCI?

CCI solution for 1,000 end users

Today's PC



Access, compute and storage all in one package

Access Tier

Compute Tier

In the Datacenter
Resource Tier

"Static" Model



HP Thin Client
TFT display

1:1 blade to user
via RDP +
standard Ethernet



1000 blade PCs and
supporting
infrastructure



HP Blade PC
bc1500
e-class Enclosure
/ Switch

SAN or NAS
Shared printers
App servers

"Dynamic" Model



DAE

720 blade PCs and
supporting
infrastructure



PC software works on CCI

Almost all
applications
that work
here...



 **Traditional
PC**

Applications that we know
work on CCI:

Acrobat v5, Pagemaker v7, Photoshop v7, AutoCAD 2002, Corel Graphics Suite v11, Quickbooks Pro 2003, Lotus SmartSuite v9.8, McAfee Virus Scan Pro v7.0, Encarta Deluxe 2003, Frontpage 2002, Office 2K, Office XP Pro, Office 2003, Project 2000, Publisher 2002, Visio 2002, Works 2002, NetMeeting (joining only, not hosting), Peachtree 2003, Norton Anti-Virus 2003 & Corp Edition, Norton SystemWorks 2003, WinFax Pro v10...and over 50 more tested and proven by actual users and the HP SW Test Team

...also
work
here



CCI

Applications that we know
won't work on CCI:

MS Movie Maker* and some games
(*MS code prohibits it from
functioning over MS's RDC)

Question?



Thank you!

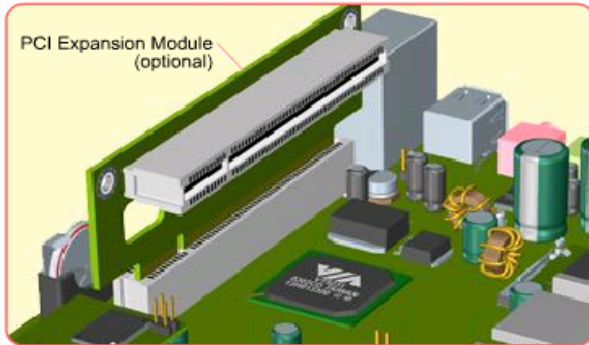
Back up slide

Management Tool

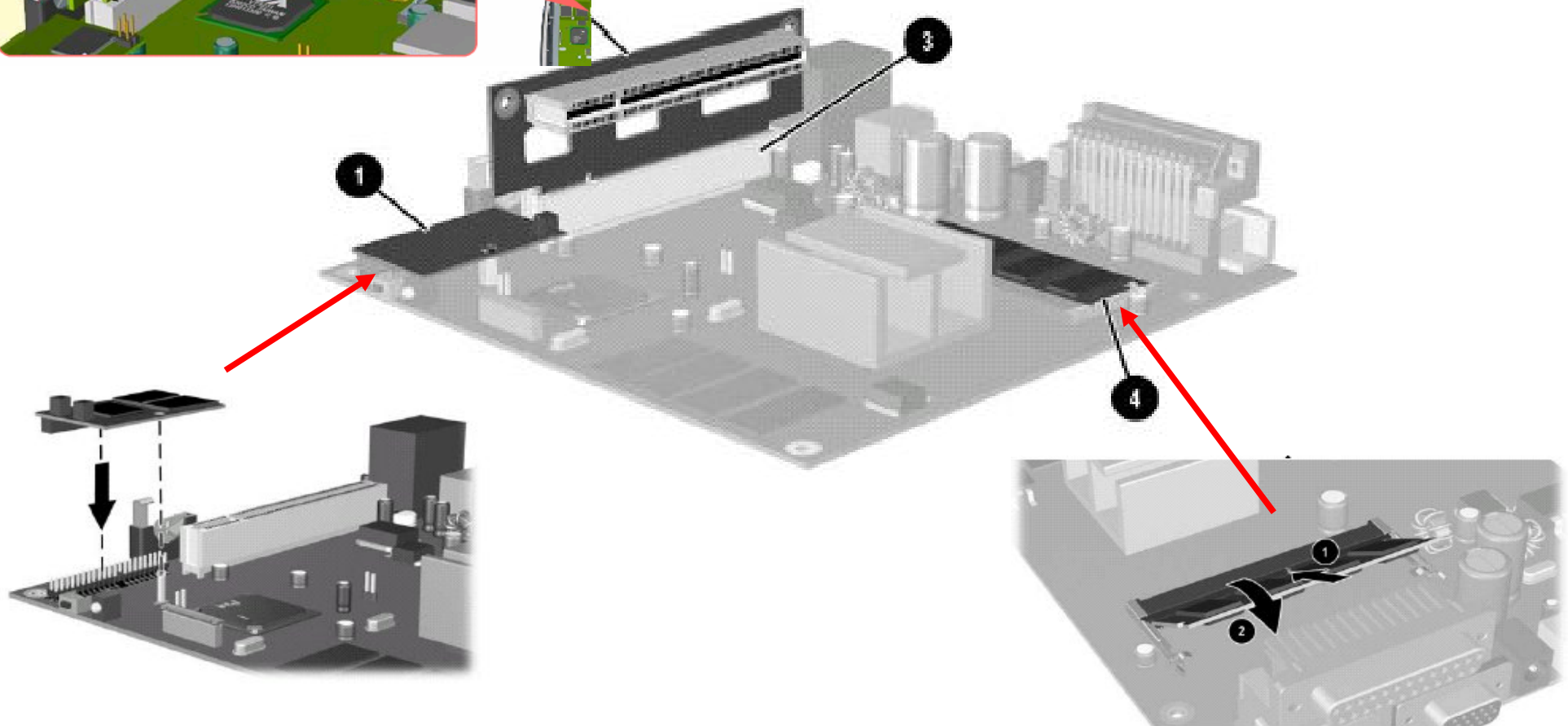
- **Update Bios**
- **Config Bios Setting**
 - Asset Tag
 - Boot Order

BIOS » top of page		
name	current version	previous version
Altiris XPe Add-on (Configure BIOS Settings)	» 1.00 C 11 Oct 04	» 1.00 B 8 Dec 03
HP Compaq Thin Client Boot Order Change Utility	» 1.00 B 22 Oct 04	» 1.00 A1 21 May 03
HP compaq Thin Client t5000 Series System BIOS (786W2 BIOS)	» 1.10 B 17 Sep 04	» 1.09 A 1 Jan 04

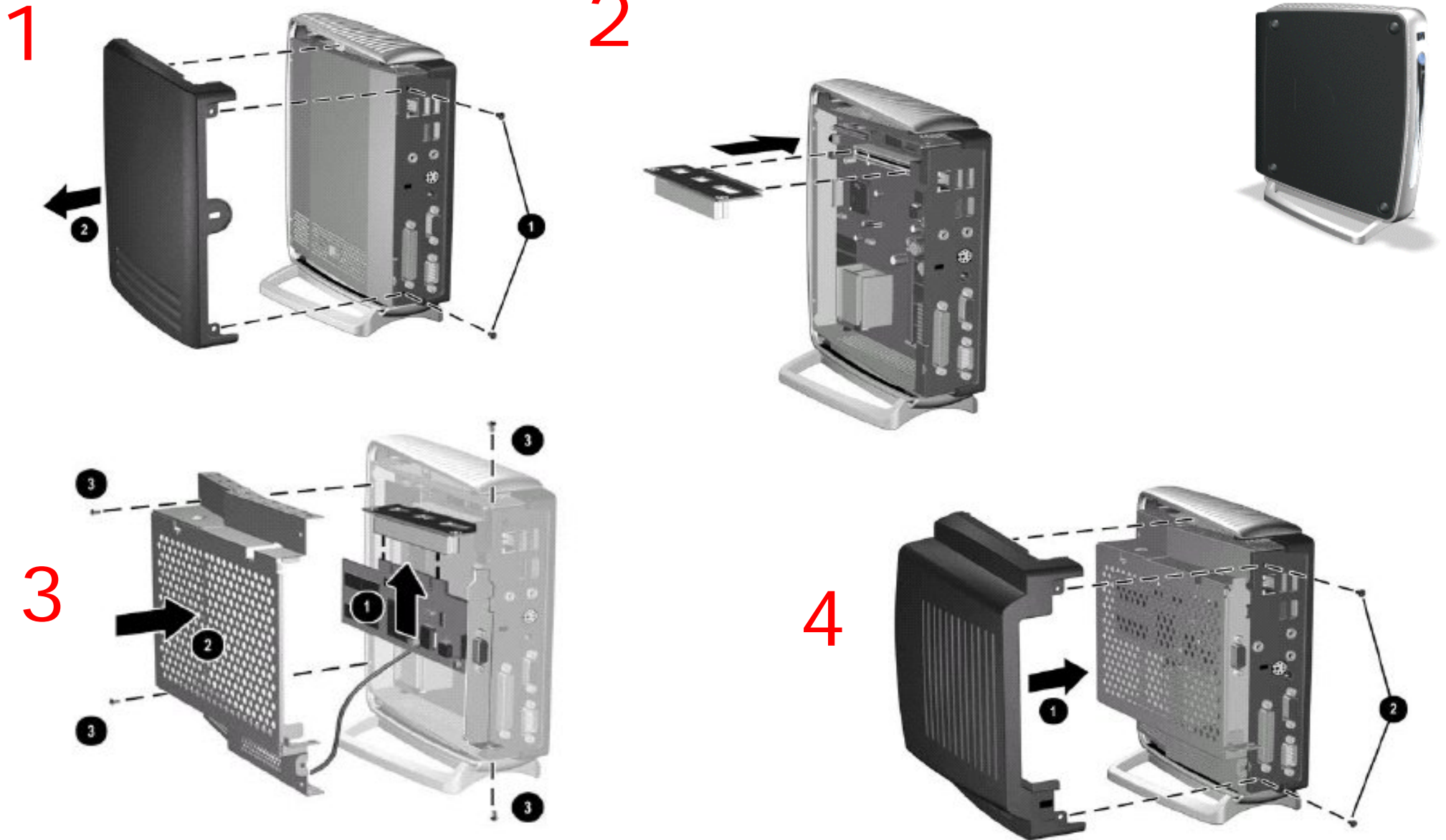
Installing Flash ROM / RAM / PCI



SHOW and TELL



Installing PCI Extension Card



HP Quick Release

Max the flexibility of where to use

Unique mounting solution with multiple configurations and uses compatible with the new t5720 model

Easy to use, **VESA compliant**, flat panel monitor mounting solution

Uses industry standard mounting holes

Innovative and applicable across a broad range of current and future HP products, including LCD monitors, LCD TV's, projectors, and desktop products

